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BY TELEFAX - 00 49 89 2399 4465 - totally 13 pages

**International Patent Application No. DK03/00246 - PCT**

**Oilcare ApS**

**TERM: 30 April 2004**

Dear Sirs

In reply to the written opinion issued on 30 January 2004 we file an amended set of claims, see the enclosed copy and the copy indicating the changes. We have the following comments.

The new claim 1 defines a process for purification of waste oil or re-refined oil from mineral or synthetic oil comprising the steps of:

- prefiltrating said oil,
- lowering the temperature of the prefiltrated oil and subsequently passing the oil through a filtering unit comprising a filter medium of organic fibres and carbon particles, said organic fibres and carbon particles being adhered to each other by a binder.

Basis for the amendments of claims 1, 18 and 31 can be found on page 7, lines 16-18, page 8, lines 15-18 and page 10, lines 4-6.

Further, claim 18 has been amended so as to refer to the process which it exercises.

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### Novelty

D1 discloses a process and an apparatus for purifying *hot* cooking oil wherein particulate matter is removed from the cooking oil prior to filtration. Heating it provided to keep fat in a melted state (column 7, lines 6-13) so as to allow the hot cooking oil to be filtered without delay and without allowing risk of fatty compounds to settle.

The present claim 1 defines a process in which the oil is passed through a filtering unit at a lower temperature than the pre-filtration. D1 teaches the importance of keeping the cooking oil hot, thus there is no disclosure of the characterizing part of claim 1. Consequently, the present claim 1 is novel.

### Inventive step

We believe that D1 concerns a different technology than purification of mineral and synthetic oil, viz. purification of cooking oils and, therefore, the closest prior art should be found elsewhere. However, taking D1 as the closest prior art as suggested by the Examiner, an inventive step is present according to the following:

Experiments have shown that by using the process stated in D1 to purify waste oils or re-refined oils from mineral and synthetic oils, said oils cannot be purified to a satisfactorily level, i.e. the waste oil contains too many residues after purification according to D1. Thus the objective problem from D1 is to modify the process of D1 to a process suitable for purifying waste oils and re-refined oils.

The solution to this problem is to lower the temperature prior to filtering of the oil.

In view of the focus on elevating the temperature in the prior art, a person skilled in the art of filtering would expect that the insufficient purification of the oil is a result of clogging of the filter. Reading D1 he would expect that he has to raise the temperature to avoid clogging. Surprisingly it has turned out that in order to obtain better purification the temperature has to be lowered. Lowering the temperature provides a better contact between the filter media and the fluid, thus allowing the filter to absorb/ filter off a larger amount of the residues as explained on page 8 in the present application. There is no indication in the prior art of such an effect and given that prior art focus on elevation of the temperature it is most unexpected that the solution to the problem is found by lowering the temperature.

Since there is no help for the person skilled in the art, it must be considered inventive to lower the temperature when all the prior art focus on high temperatures, thus the present claim 1 involves an inventive step.

The apparatus of claim 18 differs from prior art apparatuses by its cooling unit which provides the solution to the previously mentioned problem. Thus the apparatus is also novel and has an inventive step.



The use of the new apparatus is novel and since the apparatus has an inventive step so has the use of said apparatus.

Yours faithfully  
Zacco Denmark A/S

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Encls.: New set of claims and draft copy

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Kim Brogaard WIESE  
Serial No. : Not yet assigned  
(PCT/DK03/00246)  
Filed : Herewith  
(PCT filed April 23, 2003)  
For : A Process And An Apparatus For Purification Of Waste Oil Or Re-Refined  
Oil From Mineral Or Synthetic Oil  
Group : Unknown  
Examiner : Unknown

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SIR:

**EXPRESS MAIL CERTIFICATE OF MAILING  
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I hereby certify that the following documents are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to Box PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450: National Phase II of PCT application, including Transmittal Letter under 35 USC 371 (in duplicate); Express Mail Certificate of Mailing with Label No. EE474776693US; Preliminary Amendment; Copy of PCT publication No. WO 03/106603 with the search report; Copy of the original request; copy of PCT Form IB/332; Copy of the PCT Demand under Art. 31 dated August 4, 2003; Copy of the Written Opinion dated January 30, 2004; Copy of the reply to the Written Opinion filed on April 27, 2004; Copy of Preliminary Examination Report with amended pages filed on April 27, 2007; Declaration and Power of Attorney (executed); PTO Form 1595 and Assignment; Check in the amount of \$990.00; Copy of Letter dated November 30, 2004 to WIPO with Deed of Assignment and Power of Attorney; and Return Postcard.

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Respectfully submitted,

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10/518037

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Med venlig hilsen  
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Dorthe Andersen